

ADVANCE
5/65
J1B / J2B

Introduction

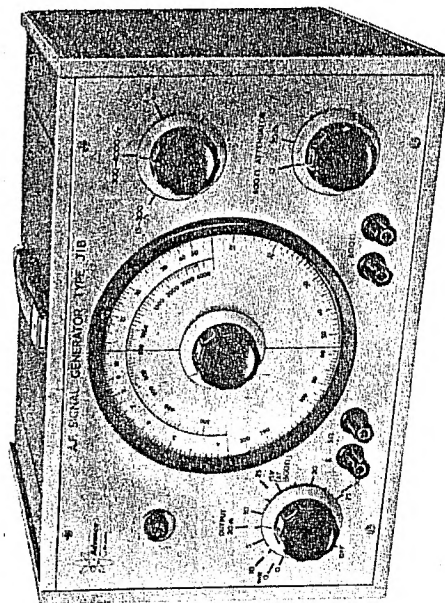
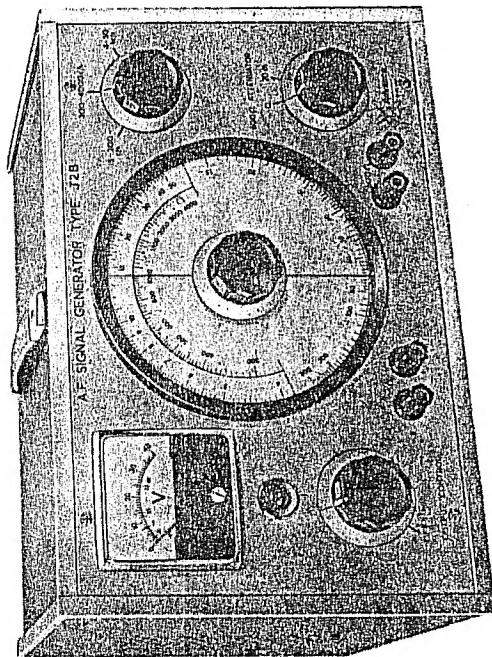
Section 1

The J1B and J2B Signal Generators, like their well-established fore-runners the J1 and J2, are two similar instruments which provide sinusoidal outputs in the frequency range 15c/s to 50kc/s. Two separate output arrangements with continuous level control are provided on each instrument. One output is of 600 Ω impedance and isolated from earth, having a maximum output level of 1W; the alternative output has an impedance of 5 Ω connected to earth and with an output level of at least 500 milliwatts.

The J1B version of the instrument uses a calibrated output control to give an indication of output level, while the J2B output level is indicated on a front panel meter.

Each instrument contains a resistance-capacitance Wien bridge oscillator which is connected to the output stage via a buffer amplifier. The inherent stability of the oscillator and the use of feedback circuits contribute to an output which is substantially constant over the whole frequency range. Overall distortion at full output power is less than 2% (34dB down on fundamental).

The J1B and J2B operate from a.c. power supplies of 105 to 125V and 210 to 250V, 40 to 100c/s.



Specification

Section 2

Frequency Ranges

A - 4kc/s to 50kc/s

B - 300c/s to 4kc/s

C - 15c/s to 300c/s

Accuracy $\pm (2\% + 1c/s)$.

Output

Output into 600 Ω 0.1mW to 1W
(0.25V to 25V), continuously variable.

Accuracy: Model J1B \pm 2dB

Model J2B $\pm (1dB + 1.5\%$
F.S.D.)

Maximum output into 5 Ω greater
than 500mW, continuously variable.

Output Impedance

The output impedance approximates
to 600 Ω over the whole range. Where
close accuracy is required the 20dB
attenuator should be used.

Attenuator

A 20dB 600 Ω attenuator is incorpor-
ated. This is a π pad built of close
tolerance resistors.

When switched in circuit it provides
a very accurate output impedance
with a maximum output of 10mW
(2.5V).

Specification

Section 2

Distortion

Total harmonic and hum content as
compared with fundamental, above
100c/s:

better than 34dB down (2%) at
full output

better than 40dB down (1%) at
100mW.

There is a slight increase in dis-
tortion below 100c/s, but it is still
low, down to 15c/s.

Power Supplies

J1B, J2B: 105 to 125V, 210 to 250V,
a.c. only, 40 to 100c/s.

Consumption

Approximately 40W.

Dimensions

11 1/8in. wide, 7 5/8in. high,
9 5/8in. deep (28.3 x 19.4 x 24.4
cm).

Weight

20 lb (9.1kg).

Finish

Light blue case and side panels with
other grain finish, medium grey
painted frame with light grey front
panel.

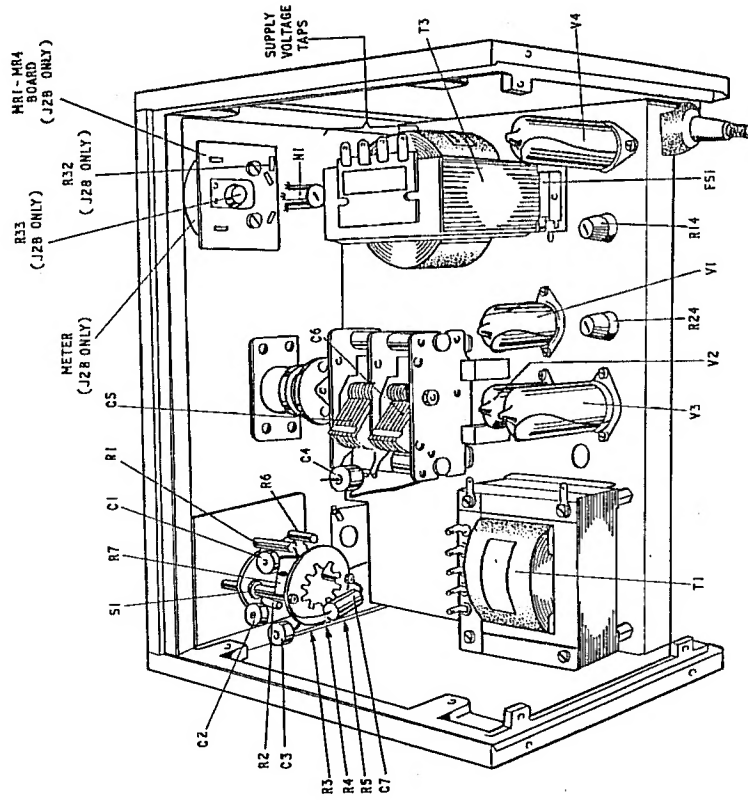


Fig. 3 Component layout - top view

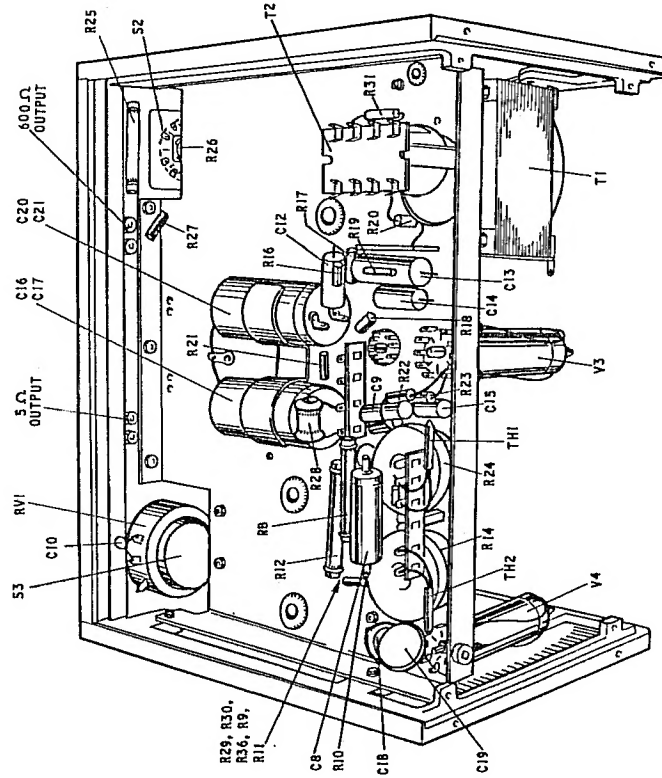
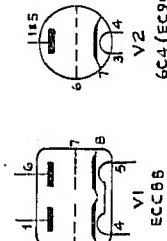


Fig. 4 Component layout - underside view

Part No.	Description
4548	ECC85
4549	6C4 (EC90)
12745	EL84
12746	E281
12747	EL84
12748	EL84
12749	EL84
12750	EL84
12751	EL84
12752	EL84
12753	EL84
12754	EL84
12755	EL84
12756	EL84
12757	EL84
12758	EL84
12759	EL84
12760	EL84
12761	EL84
12762	EL84
12763	EL84
12764	EL84
12765	EL84
12766	EL84
12767	EL84
12768	EL84
12769	EL84
12770	EL84
12771	EL84
12772	EL84
12773	EL84
12774	EL84
12775	EL84
12776	EL84
12777	EL84
12778	EL84
12779	EL84
12780	EL84
12781	EL84
12782	EL84
12783	EL84
12784	EL84
12785	EL84
12786	EL84
12787	EL84
12788	EL84
12789	EL84
12790	EL84
12791	EL84
12792	EL84
12793	EL84
12794	EL84
12795	EL84
12796	EL84
12797	EL84
12798	EL84
12799	EL84
12800	EL84
12801	EL84
12802	EL84
12803	EL84
12804	EL84
12805	EL84
12806	EL84
12807	EL84
12808	EL84
12809	EL84
12810	EL84
12811	EL84
12812	EL84
12813	EL84
12814	EL84
12815	EL84
12816	EL84
12817	EL84
12818	EL84
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12837	EL84
12838	EL84
12839	EL84
12840	EL84
12841	EL84
12842	EL84
12843	EL84
12844	EL84
12845	EL84
12846	EL84
12847	EL84
12848	EL84
12849	EL84
12850	EL84
12851	EL84
12852	EL84
12853	EL84
12854	EL84
12855	EL84
12856	EL84
12857	EL84
12858	EL84
12859	EL84
12860	EL84
12861	EL84
12862	EL84
12863	EL84
12864	EL84
12865	EL84
12866	EL84
12867	EL84
12868	EL84
12869	EL84
12870	EL84
12871	EL84
12872	EL84
12873	EL84
12874	EL84
12875	EL84
12876	EL84
12877	EL84
12878	EL84
12879	EL84
12880	EL84
12881	EL84
12882	EL84
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12889	EL84
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12897	EL84
12898	EL84
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12900	EL84
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12983	EL84
12984	EL84
12985	EL84
12986	EL84
12987	EL84
12988	EL84
12989	EL84
12990	EL84
12991	EL84
12992	EL84
12993	EL84
12994	EL84
12995	EL84
12996	EL84
12997	EL84
12998	EL84
12999	EL84
13000	EL84

NOTES

- For J1B NA only. T3 primary winding is for 117V 25-60C/s supplies.
- Motor M1 used on Sig. Gen. J2B only.
- All D.C. measurements with 20KΩ per Volt Meter. All A.C. measurements with A.C. Millivolt Meters (Advance Type 77C) with J1B. J2B set to 1Kc/s sine wave 25V output.



M1 - 0-40V A.C. 0.89mA D.C.
 TH1. 500 15-22/100
 TH2. A14
 RV1 25k linear

Fig. 5 J1B & J2B circuit diagram

